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CONCURRENCE/APPROVAL PAGE

MEMORANDUM-TO-FILE

DOCUMENTING THE RL NEPA DETERMINATION


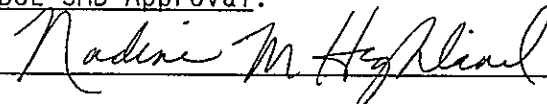
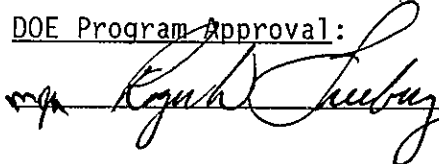
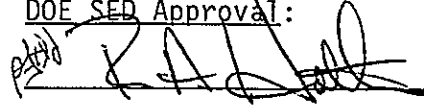
216-B-3 Pond Soil and Sediment Sampling Activities (D-2-5)

Issued by

Westinghouse Hanford Company

for the

Department of Energy Richland Operations Office

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Memorandum-To-File

Subject: 216-B-3 Pond Soil and Sediment Sampling Activities (D-2-5)

The attached environmental evaluation (EE) has been reviewed in the cognizant offices of the Department of Energy-Richland Operations Office. The following environmental impacts are documented, as indicated on the environmental checklist. Designations in parentheses correspond to impacts identified on the EE Checklist, provided in Section 9.0 of the supporting EE.

1. Will the proposed project result in any gaseous discharge to the environment? (1.a.)

Minor amounts of equipment exhaust emissions (e.g., from vehicle and drilling motors) may occur as a result of 216-B-3 Pond soil and sediment investigations required by the Resource Conservation and Recovery Act (RCRA).

2. Will the proposed project result in any particulate or droplet releases to the environment? (1.b.)

Some dust may be generated as a result of the activities of vehicles.

3. Will the proposed project result in any thermal discharges to the atmosphere? (1.c.)

Equipment (e.g., power tools and vehicles) used during RCRA sampling activities may release minor amounts of heat to the atmosphere.

4. Will the proposed project require the installation of wells? (2.g.)

No ground water monitoring wells will be installed. Vadose zone boreholes will be installed during the proposed activities for soil and sediment sampling purposes. Appropriate measures will be taken to prevent any spread of contamination as a result of drilling and sampling activities. All vadose zone boreholes will be properly abandoned, per WAC 173-160-420, following completion of geodetic surveying.

5. Will the project generate a volume of solid waste for disposal? (3.d.)

Miscellaneous solid wastes (e.g., construction scrap) generated during the construction phase of the proposed project will be disposed of in the Hanford Solid Waste Landfill. Radioactively and/or chemically contaminated solid wastes, such as solidified equipment decontamination water and some sampling equipment, will be collected, packaged (as applicable), and transferred to the appropriate on-site facilities for decontamination, storage, and/or disposal in accordance with regulatory requirements, contractor guidelines, and Department of Energy orders.

6. Will the proposed project be subject to any other federal, state, or local environmental regulations not otherwise addressed in this checklist? (4.a.)

The 216-B-3 Pond sampling activities support requirements set forth in RCRA. Additional investigations at the 216-B-3 Pond will be performed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Though not specifically required, proposed soil boreholes will be constructed using the guidance provided in applicable Federal and State regulations. Well drilling operators will be appropriately licensed under RCW 18.104.070.

7. Will the proposed project increase noise level? (4.b.)

Equipment associated with drilling activities will temporarily increase noise levels in the immediate vicinity.

8. Will the proposed project impact archaeological or historic sites? (4.c.)

Project activities are not expected to impact any known or undiscovered historic or cultural sites. The Hanford Cultural Resources Laboratory conducted a cultural resources review of the area around the 216-B-3 Pond for an unrelated project, finding that an archaeological survey of the area is not warranted (HCRC #88-200-047). However, the site will be monitored for cultural properties during excavation work. Significant archeological finds may result in schedule delays until a plan to mitigate construction impacts can be devised and implemented.

9. Will the activity require long-term commitment of nonrenewable resources? (4.g.)

Construction materials and minor amounts of petroleum products, used to power vehicles and equipment, represent a long-term commitment of nonrenewable resources.

It has been determined that the potential environmental impacts that may result from this project are clearly insignificant within the context of the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-190, 42 United States Code 4321, et seq.). It is, therefore, determined that this Memorandum-To-File is the appropriate level of NEPA documentation for this project.

ENVIRONMENTAL EVALUATION
216-B-3 POND SOIL AND SEDIMENT SAMPLING ACTIVITIES (D-2-5)

1.0 INTRODUCTION

This Environmental Evaluation (EE) addresses the potential environmental impacts associated with the proposed investigative activities supporting the Resource Conservation and Recovery Act (RCRA) closure requirements for the 216-B-3 Pond (B-Pond) (RCRA TSD Unit D-2-5). The primary objectives of the sampling activities are to collect data onsite, to determine the nature and extent of contamination, and to conduct testing as necessary to support the evaluation of site closure alternatives. Results of the proposed soil and sediment sampling activities and analyses will be documented in a site characterization report and in a RCRA closure plan.

As shown on the attached Environmental Checklist, there are several potential environmental impacts related to the proposed sampling activities. These potential impacts are clearly insignificant and do not contribute synergistic effects to Hanford Site activities. The proposed action, as discussed in this EE, clearly does not constitute a major federal action significantly affecting the quality of human environment within the context of the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-190, 42 U.S. Code, 4321 et seq.). It is recommended, therefore, that no additional environmental documentation be prepared. This EE serves as supporting documentation to the requirement for a "Memorandum-to-File" as described in U.S. Department Of Energy (DOE) Guidelines (52 FR 47662).

2.0 PROJECT DESCRIPTION

2.1 Facility Description:

The proposed activity involves field investigations in support of RCRA closure requirements for B-Pond, a soil percolation unit located directly east of the Hanford Site 200 East Area (Figure 1). A RCRA Part A Permit Application for B-Pond was submitted to the Washington State Department of Ecology most recently in November, 1987 (revision 2). The present RCRA facility consists of a series of four interconnected and unlined ponds - the main B-Pond lobe and expansion lobes 216-B-3A, 216-B-3B, and 216-B-3C - fed by the 216-B-3-3 and 216-A-29 ditches. An emergency contingency pond (216-E-25), which has not been used to date, lies to the north of the main lobe, and an abandoned and interim-stabilized overflow pond is situated near the western edge of the main lobe (Figure 2).

Liquid discharges from the 200 East Area reactor fuel processing facilities are routed to the main B-Pond lobe via the 216-A-29 ditch and the 216-B-3-3 ditch, which converges with the 216-A-29 ditch approximately 1500 feet west of the main lobe. Discharges flow from the main lobe to the 3A lobe, regulated by an inlet structure along the dike separating the two lobes. The 3B lobe is currently dry but has received overflow from the 3A lobe. Overflow from the 3A lobe now flows to the 3C lobe via a culvert.

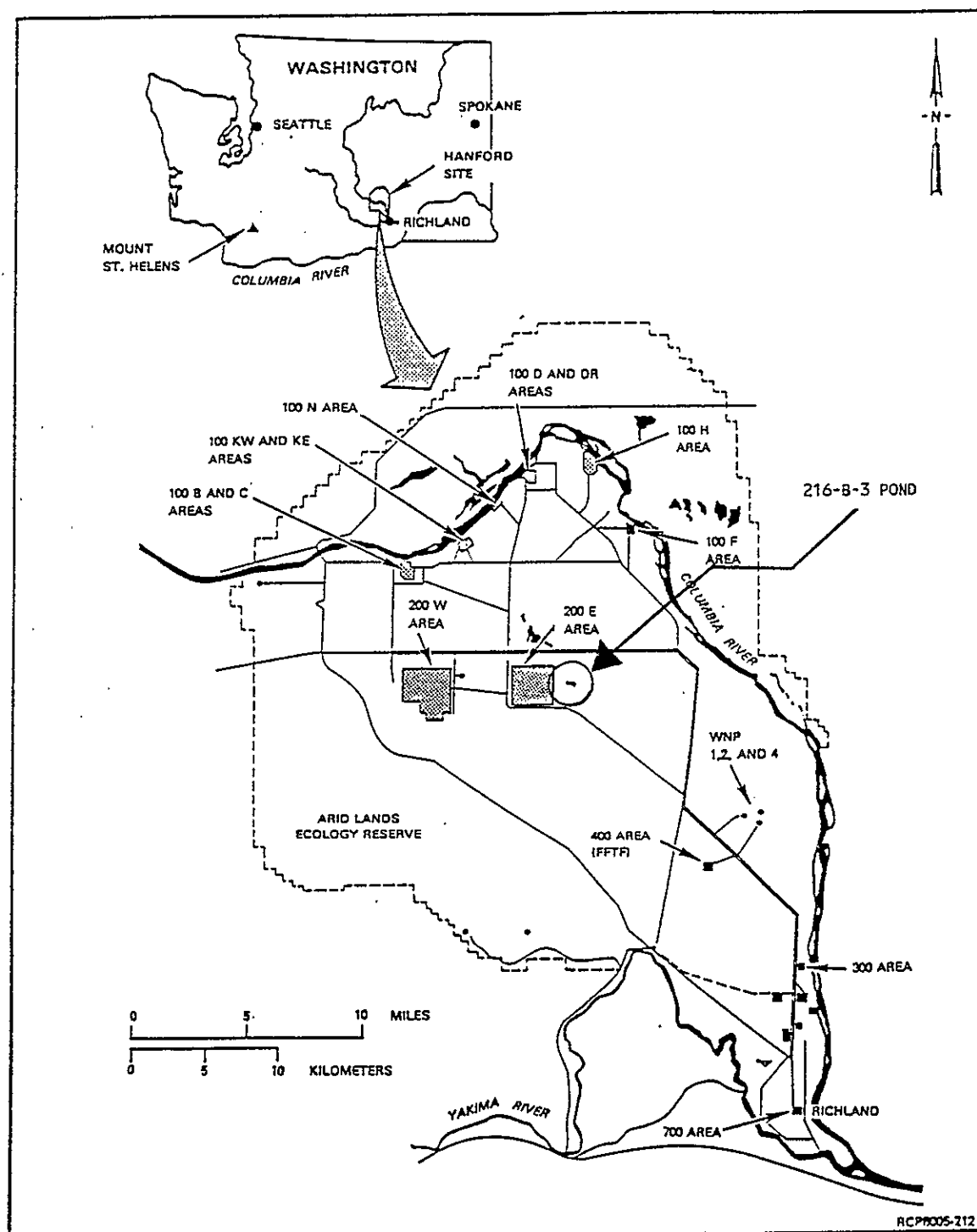
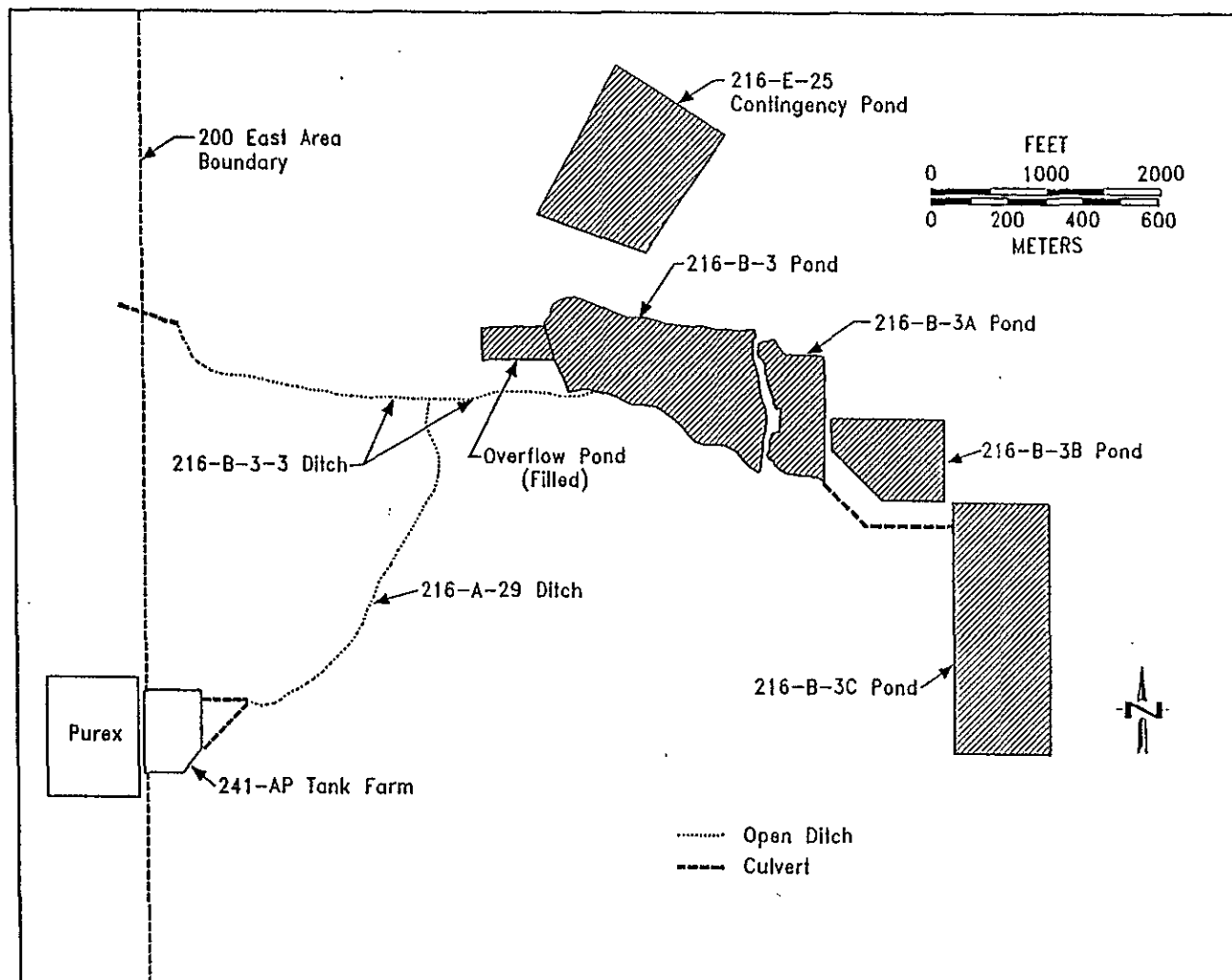


Figure 1. Hanford Site Map and 200 East Area

Figure 2. Configuration of B-Pond



Discharges of hazardous constituents to B-Pond, including accidental releases of radioactive materials, are known to have occurred in the past. Since 1984, physical and administrative controls have been used to avoid inadvertent discharges of hazardous materials. B-Pond is currently used only for disposal of nonregulated (nonhazardous) waste water generated by various operations within the 200 East Area. Process cooling water and steam condensate constitute the vast majority of the discharged waste water volume.

2.2 Soil and Sediment Sampling Plan:

The proposed sampling plan uses a phased approach to allow information from earlier sampling phases to be considered in the design of subsequent sampling. Based on historical information of operations and effluent discharges (including accidental releases) to B-Pond, it is anticipated that inorganic constituents, including metals and radioactive isotopes, are the most significant contaminants of concern. Phase 1 of the sampling effort will result in (1) a preliminary assessment of the nature and extent of contamination within the main lobe, the three expansion lobes, and the 216-B-3-3 ditch downstream of the confluence of the 216-B-3-3 and 216-A-29 ditches, and (2) the establishment of background values of potential contaminants. Individual samples, composite samples, and equipment blanks will be taken from selected regions of the four lobes and the ditch. In wet pond areas, pond sediment samples will be collected using a Ponar sampler or weighted coring sampler. The Ponar sampler will be more appropriate where the pond bottom sediment layer is thin (about four inches or less). The coring sampler will be used where the sediment layer is greater than four inches thick, and coring may be used to collect samples to a depth of up to two feet. Samples will be collected from a sampling platform equipped with an outrigger for sampler handling and retrieval. In dry pond areas and in the ditch, soil samples will be collected with handheld instruments (e.g., shovels and spoons) by taking subsurface grab samples not more than six inches beneath the soil surface.

Background soil samples and an equipment blank will be taken from the unused 216-E-25 contingency pond and from several sites near B-Pond at locations to be determined at the time of collection. All background samples will be dry soil samples, and the sampling methodology will be the same as for dry samples taken elsewhere at the facility.

Phase 2 of the sampling effort is designed to provide supplemental sampling to complete the assessment of surface contamination at the four B-Pond lobes and within the eastern part of the B-3-3 ditch. Based upon results of Phase 1 analyses, additional sampling points will be selected from B-Pond, as necessary. Phase 2 sampling methodology will be essentially the same as that described for Phase 1.

The objective of Phase 3 of the sampling effort is to evaluate the lateral and horizontal extent of subsurface (vadose zone) soil contamination beneath the four B-Pond lobes. Vadose zone boreholes may be drilled through the center of and/or around the perimeters of the B-Pond lobes in order to assess the extent of contamination in the subsurface. Vadose zone holes will generally be drilled using either cable-tool or hollow-stem-auger rigs.

Boreholes may be drilled to varying depths ranging from approximately ten feet beneath the lobe bottoms to below the water table. Sediment samples will be taken at varying intervals from the surface to final depths reached during drilling. Specific locations for sampling activities will be determined on the basis of information obtained from earlier phases of the sampling effort.

If, during sampling activities or after sample analysis, questions arise that are not adequately addressed by the first three sampling phases, additional sampling may become necessary. Phase 4 sampling will be planned in response to specific situations or to answer specific questions. Thus it is not possible to specify plans prior to recognition of specific questions or needs. Phase 4 sampling methodology will be essentially the same as that described for earlier phases.

During the RCRA soils investigation, it may be necessary to conduct drilling/construction activities through surface contamination to just below the water table. Additionally, nonradioactive chemical contamination and radioactive contamination may be encountered below the surface. The potential for accidentally contaminating ground water will be mitigated by careful control of drilling operations. Controls include pre-drilling surveys and routine monitoring during actual drilling operations. Soil and sediment samples obtained during borehole drilling will be screened onsite with hand-held instruments for radiation and volatile compounds. No boreholes will be drilled to ground water in areas where shallow samples show significant levels of contamination. Upon completion of geodetic surveying of boreholes sampled as a part of B-Pond characterization activities, the boreholes will be properly abandoned in accordance with regulatory requirements.

Initiation of this RCRA activity is planned for fiscal year (FY) 1989 and completion in FY 1992. The total cost of the activity is estimated to be approximately 1.5 million dollars.

3.0 AFFECTED ENVIRONMENT

B-Pond is located due east of the 200 East Area, which is near the center of the 560 square mile semi-arid Hanford Site in southeastern Washington. The proposed project site is approximately seven miles from the Columbia River, which is the nearest natural watercourse. The projected 100-500 year flood does not include the 200 Area Plateau, on which B-Pond lies. The nearest population center is the city of Richland, Washington, about 30 miles to the south-southeast. The region is characterized as one of low to moderate seismicity.

Approximately 150 feet of unconsolidated geologic materials separate the facility from the water table. The area has a mild climate with annual precipitation averaging six to seven inches, and infrequent periods of high winds (up to 80 miles per hour). Tornadoes are infrequent and generally small in the northwest portion of the United States. The probability of a tornado hitting any given facility on the Hanford Site is estimated at ten chances in one million during any given year.

B-Pond is classified as a surface impoundment disposal facility. The area within the boundaries of the facility has undergone various landscape manipulations as a result of B-Pond construction activities and operations. The natural vegetation consists mostly of a sparse covering of desert shrubs and drought-resistant grasses. The important shrubs are big sagebrush and rabbitbrush, while the understory is primarily composed of cheatgrass and Sandberg's bluegrass. The sagebrush/cheatgrass-Sandberg's bluegrass vegetative community dominates the Hanford Site, including the 200 Area Plateau.

Most mammal species known to inhabit the Hanford Site are small, nocturnal creatures, primarily pocket mice and jackrabbits. Large mammals found at Hanford are deer and elk, although the elk are almost entirely on the Arid Lands Ecology Reserve. Coyotes and raptors are the primary predators, and grasshoppers are the most conspicuous insects in the community. Semiannual peaks in avian variety and abundance occur during migration seasons. Occasional visitors to the 200 Area plateau include the peregrine falcon and the American white pelican (listed as endangered species), the ferruginous hawk (State listed as threatened species), and the bald eagle (State and Federally listed as threatened). However, no species of plant or animal registered as rare, threatened, or endangered are known to depend on the habitat unique to the area occupied by B-Pond.

4.0 POTENTIAL ENVIRONMENTAL IMPACTS

This section contains a detailed explanation of the potential environmental impacts as indicated on the Environmental Checklist (Section 9.0 of this report). All identified potential impacts are associated with the construction phase of the proposed activities.

- 1.a. Minor amounts of equipment exhaust emissions (e.g., from vehicle and drilling motors) may occur as a result of 216-B-3 Pond soil and sediment investigations required by RCRA.
- 1.b. Some dust may be generated as a result of the activities of vehicles.
- 1.c. Equipment (e.g., power tools and vehicles) used during RCRA sampling activities may release minor amounts of heat to the atmosphere.
- 2.g. No ground water monitoring wells will be installed. Vadose zone boreholes will be installed during the proposed activities for soil and sediment sampling purposes. Appropriate measures will be taken to prevent any spread of contamination as a result of drilling and sampling activities. All vadose zone boreholes will be properly abandoned, per WAC 173-160-420, following completion of geodetic surveying.
- 3.d. Miscellaneous solid wastes (e.g., construction scrap) generated during the construction phase of the proposed project will be disposed of in the Hanford Solid Waste Landfill. Radioactively and/or chemically contaminated solid wastes, such as solidified equipment decontamination

water and some sampling equipment, will be collected, packaged (as applicable), and transferred to the appropriate on-site facilities for decontamination, storage, and/or disposal in accordance with regulatory requirements, contractor guidelines, and DOE orders.

- 4.a. The 216-B-3 Pond sampling activities support requirements set forth in RCRA. Additional investigations at the 216-B-3 Pond will be performed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Although not specifically required, proposed soil boreholes will be constructed using the guidance provided in applicable Federal and State regulations. Well drilling operators will be appropriately licensed under RCW 18.104.070.
- 4.b. Equipment associated with drilling activities will temporarily increase noise levels in the immediate vicinity.
- 4.c. Project activities are not expected to impact any known or undiscovered historic or cultural sites. The Hanford Cultural Resources Laboratory conducted a cultural resources review of the area around the 216-B-3 Pond for an unrelated project, finding that an archaeological survey of the area is not warranted (HCRC #88-200-047). However, the site will be monitored for cultural properties during excavation work. Significant archeological finds may result in schedule delays until a plan to mitigate construction impacts can be devised and implemented.
- 4.g. Construction materials and minor amounts of petroleum products, used to power vehicles and equipment, represent a long-term commitment of nonrenewable resources.

5.0 COORDINATION WITH FEDERAL, STATE, REGIONAL, OR LOCAL PLANS

This project provides no known conflicts with federal, state, regional, or local environmental plans. The DOE will continue to coordinate RCRA and CERCLA efforts at the Hanford Site with the U. S. Environmental Protection Agency and the Washington State Department of Ecology, as agreed in the Hanford Federal Facility Agreement and Consent Order.

The four B-Pond lobes and ditch 216-B-3-3 together compose the D-2-5 RCRA TSD Unit and are five of the ten possible waste sources presently listed in the 200-BP-11 CERCLA Operable Unit. Additional B-Pond investigations pursuant to RCRA and/or CERCLA will be performed in accordance with work plans for the 200-BP-11 Operable Unit. The portion of ditch 216-A-29 to the east of the 216-A-29 - 216-B-3-3 confluence is included in the D-2-3 RCRA TSD Unit and in the 200-PO-5 CERCLA Operable Unit; hence, all investigative activities at that portion of the 216-A-29 ditch will be conducted separately from activities discussed in this EE.

6.0 ALTERNATIVES

No viable alternatives were identified for the proposed activity. Data are required to pursue RCRA requirements. A no action alternative would not provide the necessary data.

7.0 CONTACT PERSONNEL

Westinghouse Hanford Company

R. C. Roos	Environmental Engineering Group
K. A. Woodworth	Environmental Engineering Group
J. G. Woolard	Regulatory Permitting/NEPA Group

8.0 PERMITS AND APPROVALS

Where appropriate, a cultural resource review will provide the vehicle for necessary approvals required under the National Historic Preservation Act. Borehole drilling operators will be appropriately licensed under RCW 18.104.070. No other permits or approvals from outside agencies are known to be required for activities addressed in this EE.

Disposal activities at the 216-B-3 Pond are permitted under a RCRA Part A permit. Actions taken in response to the results of the proposed RCRA sampling activities and separate ground water monitoring activities will be documented in a RCRA closure plan and post-closure permit application for the D-2-5 RCRA unit, both of which must receive approval from the Environmental Protection Agency and the Washington State Department of Ecology, as agreed in the Hanford Federal Facility Agreement and Consent Decree for conduct of dangerous waste management facility closure activities.

Appropriate Westinghouse Hanford Company permits (e.g., drilling permit) will be obtained prior to construction activities as needed. Hanford standards and national consensus codes and standards (e.g., Occupational Safety and Health Standards) as developed by such organizations as the American National Standards Institute, National Fire Protection Association, American Society of Mechanical Engineers, International Conference of Building Officials, and the Institute of Electrical and Electronics Engineers shall be used. All applicable Westinghouse Hanford Company guidelines and DOE orders, prescribed codes, and standards shall be followed. The latest editions of all codes and standards in effect at the start of the design shall be used.

9.0 CHECKLIST

The potential environmental impacts of the proposed characterization activities at the 216-B-3 Pond are indicated on the attached Environmental Checklist. All characterization activities discussed in this EE are

9.0 ENVIRONMENTAL EVALUATION CHECKLIST

Potential Environmental Impacts: A detailed explanation of all "yes" answers is required and is provided in the text.

	CONSTRUCTION		OPERATION			CONSTRUCTION		OPERATION	
	YES	NO	YES	NO		YES	NO	YES	NO
1. <u>AIR</u> : Will the proposed project/activity:					3. <u>LAND USE</u> : Will the project:				
a. Result in any gaseous discharges to the environment? (If yes, provide description, physical/chemical characterization.)	<u>X</u>	—	—	<u>X</u>	a. Conflict with existing zoning or land use?	—	<u>X</u>	—	<u>X</u>
b. Result in any particulate or droplet releases to the atmosphere?	<u>X</u>	—	—	<u>X</u>	b. Be located on the 100-year or 500-year floodplain?	—	<u>X</u>	—	<u>X</u>
c. Result in any thermal discharges to the environment?	<u>X</u>	—	—	<u>X</u>	c. Be located on wetlands?	—	<u>X</u>	—	<u>X</u>
d. Cause any other atmospheric disturbance?	—	<u>X</u>	—	<u>X</u>	d. Generate a volume of solid waste for disposal?	<u>X</u>	—	—	<u>X</u>
e. Violate any federal/state or local emission standards?	—	<u>X</u>	—	<u>X</u>	(1) Hazardous?	<u>X</u>	—	—	<u>X</u>
f. Be subject to federal or state standards of performance for new stationary sources? (WAC 173-400-115)	—	<u>X</u>	—	<u>X</u>	(2) Radioactive?	<u>X</u>	—	—	<u>X</u>
g. Violate any applicable ambient air quality standards (e.g., CO, hydrocarbons, particulates, NO ₂ , etc.)?	—	<u>X</u>	—	<u>X</u>	(3) Other?	<u>X</u>	—	—	<u>X</u>
2. <u>WATER</u> : Will the proposed project/activity:					e. Cause erosion?	—	<u>X</u>	—	<u>X</u>
a. Result in any liquid discharges to the environment? (If yes, provide description, physical/chemical characterization.)	—	<u>X</u>	—	<u>X</u>	f. Be located on the Arid Land Ecology Reserve?	—	<u>X</u>	—	<u>X</u>
b. Discharge heat to surface or subsurface water?	—	<u>X</u>	—	<u>X</u>	g. Conflict with National Environmental Policy Act activities?	—	<u>X</u>	—	<u>X</u>
c. Alter stream flow rates?	—	<u>X</u>	—	<u>X</u>	h. Impact prime or unique farmland?	—	<u>X</u>	—	<u>X</u>
d. Significantly alter natural evaporation rates?	—	<u>X</u>	—	<u>X</u>	4. <u>GENERAL</u> : Will the proposed project/activity:				
e. Release soluble solids to natural waters?	—	<u>X</u>	—	<u>X</u>	a. Be subject to any other federal, state, or local environmental regulations not otherwise addressed in this checklist?	<u>X</u>	—	—	<u>X</u>
f. Interconnect aquifers?	—	<u>X</u>	—	<u>X</u>	b. Increase noise level?	<u>X</u>	—	—	<u>X</u>
g. Require installation of wells?	<u>X</u>	—	—	<u>X</u>	c. Disturb or alter the ground surface potentially impacting known or undiscovered archaeological, historical, or native American religious sites?	<u>X</u>	—	—	<u>X</u>
h. Require review/permit under the Federal National Pollutant Discharge Elimination System?	—	<u>X</u>	—	<u>X</u>	d. Require use of carcinogens, pesticides, or toxic substances?	—	<u>X</u>	—	<u>X</u>
i. Require a Corps of Engineers or other permit?	—	<u>X</u>	—	<u>X</u>	e. Impact wildlife or habitat (terrestrial or aquatic)?	—	<u>X</u>	—	<u>X</u>
j. Violate any state water quality standards (COD, BOD, TOC, DO, TDS, pH, temperatures, etc.)?	—	<u>X</u>	—	<u>X</u>	f. Affect endangered species or critical habitat?	—	<u>X</u>	—	<u>X</u>
k. Require an Oil and Chemical Spill Control and Prevention Plan?	—	<u>X</u>	—	<u>X</u>	g. Require long-term commitment of nonrenewable resources?	<u>X</u>	—	—	<u>X</u>
					h. Require new utilities or modifications to existing utilities?	—	<u>X</u>	—	<u>X</u>
					i. Increase offsite radiation dose?	—	<u>X</u>	—	<u>X</u>
					j. Impair recreation?	—	<u>X</u>	—	<u>X</u>
					k. Require modifications to the Sitewide Environmental Surveillance Program?	—	<u>X</u>	—	<u>X</u>